

P **Cnicus benedictus**

Common Name(s)

Blessed Thistle

How Used

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Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
30	(+)-CATECHIN	Plant	--	--		Jim Duke's personal files.
0	2-ACETYNORTRACHELOSIDE	Plant	--	--		
3	ABSINTHIN	Plant	--	--		Jim Duke's personal files.
0	ALPHA-AMYRENONE	Shoot	--	--		Jim Duke's personal files.
10	ALPHA-AMYRIN	Plant	--	--		
10	ALPHA-AMYRIN	Shoot	--	--		Jim Duke's personal files.
2	ALPHA-AMYRIN-ACETATE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	ALPHA-AMYRINE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
5	ALUMINUM	Plant	11.3	85	-0.5880215511088723	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	AMYRENONE	Plant	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996.	Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	ANABSINTHIN	Plant	--	--	Jim Duke's personal files.	
4	APIGENIN-7-GLYCOSIDE	Plant	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
22	ARCTIGENIN	Plant	--	--		
4	ARCTIIN	Seed	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
0	ARTEMISIFOLIN	Plant	--	--	Jim Duke's personal files.	
1	ARTEMISIIFOLIN	Plant	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996.	Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
112	ASCORBIC-ACID	Plant	4	30	-0.5866429815331944	
0	ASH	Plant	17689	133000	0.21656451137981103	
0	ASH	Seed	41000	41000	-0.20693751206665473	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
7	ASTRAGALIN	Shoot	--	--	Jim Duke's personal files.	
0	BENEDICTIN	Shoot	--	--	Jim Duke's personal files.	
0	BENEDICTINE	Plant	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	BENEDICTINOLIDE	Shoot	--	--		Jim Duke's personal files.
24	BENZALDEHYDE	Shoot	--	--		Jim Duke's personal files.
20	BENZOIC-ACID	Plant	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
53	BETA-CAROTENE	Plant	18	133	-0.006865949688543744	
47	BETA-SITOSTEROL	Plant	--	--		
47	BETA-SITOSTEROL	Seed	243	243	-0.5377265608091442	Jim Duke's personal files.
102	CAFFEIC-ACID	Plant	--	--		Jim Duke's personal files.
28	CALCIUM	Plant	1490	11200	-0.2555852720073188	
2	CAMPESTEROL	Plant	--	--		Jim Duke's personal files.
0	CAR-3-ENE	Shoot	--	--		Jim Duke's personal files.
0	CARBOHYDRATES	Plant	101080	760000	0.5640564505401375	
0	CERYL-ALCOHOL	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	CHROMIUM	Plant	0.2	1.8	-0.69528381757724	
60	CINNAMALDEHYDE	Flower	--	--		Jim Duke's personal files.
60	CINNAMALDEHYDE	Leaf	--	--		Jim Duke's personal files.
60	CINNAMALDEHYDE	Shoot	--	--		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
60	CINNAMALDEHYDE	Plant	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
53	CITRAL	Shoot	--	--		Jim Duke's personal files.
53	CITRAL	Essential Oil	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
20	CITRONELLAL	Shoot	--	--		Jim Duke's personal files.
15	CITRONELLOL	Shoot	--	--		Jim Duke's personal files.
10	CNICIN	Leaf	100	18000		Jim Duke's personal files.
10	CNICIN	Shoot	2000	7000		Jim Duke's personal files.
10	CNICIN	Plant	2000	7000		
0	CNICINOLIDE	Shoot	--	--		Jim Duke's personal files.
2	COBALT	Plant	0.5	3.8	-0.35327499797790946	
4	COSMOSIIN	Shoot	--	--		Jim Duke's personal files.
10	CUMINALDEHYDE	Shoot	--	--		Jim Duke's personal files.
5	DAUCOSTEROL	Shoot	--	--		Jim Duke's personal files.
0	DOCOSAN-1-OL	Plant	--	--		Jim Duke's personal files.
0	DODECA-1,11-DIEN-3,5,7,9-TETRAIN	Plant	--	--		
0	DODECA-1,11-DIEN-3,5,7,9-TETRAYNE	Essential Oil	4000	4000		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	EO	Plant	3000	3000	-0.5121339088100166	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FAT	Plant	1463	11000	-0.5947194132447695	
0	FAT	Seed	258000	271000	0.029562564488382438	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	FENCHONE	Plant	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
6	FENCHONE	Shoot	--	--		Jim Duke's personal files.
61	FERULIC-ACID	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
61	FERULIC-ACID	Shoot	--	--		Jim Duke's personal files.
15	FIBER	Plant	98000	98000	-0.9227393238771348	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Plant	--	98000	-0.11209991698565153	
0	FIBER(DIETARY)	Plant	--	379000	0.16215623983642335	
0	GERMACRANOLIDE	Plant	--	--		Jim Duke's personal files.
6	IRON	Plant	3.2	24	-0.7100395587228927	
0	KAEMPFEROL-3-O-GLUCOSIDE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	KARDOLLIN-22	Plant	--	--		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	KARDOLLIN-35	Plant	--	--		Jim Duke's personal files.
0	KARDOLLIN-75	Plant	--	--		Jim Duke's personal files.
0	KARDOLLIN-85	Plant	--	--		Jim Duke's personal files.
0	KARDOLLIN-95	Plant	--	--		Jim Duke's personal files.
0	KILOCALORIES	Plant	2520	2520	-0.7194034365445849	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	LABIATIC-ACID	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
10	LIGNANS	Plant	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
27	LINOLEIC-ACID	Seed	56160	65520	-0.3564517509177292	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	LITHOSPERMIC-ACID	Fruit	--	--		
78	LUTEOLIN	Shoot	--	--		Jim Duke's personal files.
78	LUTEOLIN	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LUTEOLIN-DIGLUCOSIDE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LUTEOLIN-DIGLUCOSIDE	Shoot	--	--		Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev Reference Citation		
65	MAGNESIUM	Plant	235	1770	-0.7128475273587387	
14	MANGANESE	Plant	0.3	2.1	-0.679853846010259	
3	MUCILAGE	Plant	15960	200000	0.6200059608641451	
0	MULTIFLORENOL	Shoot	--	--		Jim Duke's personal files.
0	MULTIFLORENOL	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	MULTIFLORENOL-ACETATE	Shoot	--	--		Jim Duke's personal files.
0	MULTIFLORENOL-ACETATE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	N-DECANE	Shoot	--	--		Jim Duke's personal files.
0	N-DODECANE	Shoot	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Shoot	308	308		Jim Duke's personal files.
1	N-NONACOSANE	Seed	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	N-NONANE	Shoot	--	--		Jim Duke's personal files.
0	N-TRIDECANE	Shoot	--	--		Jim Duke's personal files.
0	N-UNDECANE	Shoot	--	--		Jim Duke's personal files.
39	NIACIN	Plant	0.4	3.1	-1.0316455776809799	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
11	NICOTINIC-ACID	Leaf	--	--		Jim Duke's personal files.
11	NICOTINIC-ACID	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	NORTRACHELOSIDE	Fruit	--	--		
0	NORTRACHELOSIDE	Plant	--	--		Jim Duke's personal files.
64	OLEANOLIC-ACID	Plant	--	--		
64	OLEANOLIC-ACID	Shoot	--	--		Jim Duke's personal files.
18	OLEIC-ACID	Seed	159840 186480 0.5538748797301541		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
16	P-CYMENE	Shoot	--	--		Jim Duke's personal files.
16	P-CYMENE	Essential Oil	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
0	PHENYL-ETHYL-ALCOHOL	Shoot	--	--		Jim Duke's personal files.
0	PHENYLPROPANES	Plant	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
4	PHOSPHORUS	Plant	359	2700	-0.42703250934882114	
14	POTASSIUM	Plant	3458	26000	0.29309751910799225	
0	PROTEIN	Plant	12768	96000	-0.6348244212727595	

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0	PROTEIN	Seed	138000	175000	-0.5230214698192328	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses	
15	RIBOFLAVIN	Plant	0.3	2.1	-0.6488992795262795		
87	RUTIN	Plant	--	--		Jim Duke's personal files.	
0	SALONITENOLIDE	Plant	--	--		Jim Duke's personal files.	
0	SALONITENOLIDE	Shoot	--	--		Jim Duke's personal files.	
0	SALONITENOLIDE	Fruit	--	--			
60	SELENIUM	Plant	0.5	3.4	-0.2757875215710519		
0	SESQUITERPENES	Plant	2000	7000	1	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.	
4	SILICON	Plant	--	--			
0	SITOSTERYL-GLYCOSIDE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.	
1	SODIUM	Plant	162	1220	-0.23654338092027774		
5	STARCH	Plant	10640	80000	-0.8427953808926898		
0	STEROL	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
12	STIGMASTEROL	Shoot	--	--		Jim Duke's personal files.	
12	STIGMASTEROL	Seed	--	--		Jim Duke's personal files.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation	
12	STIGMASTEROL	Plant	--	--			
0	SUGARS	Plant	15960	120000	0.021494766817621802		
0	SYRINGOSIDE	Leaf	--	--	Jim Duke's personal files.		
35	TANNIN	Plant	--	80000	-0.053082229266390064		
0	TANNINS	Plant	80000	80000	-0.7353243133122137	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
31	THIAMIN	Plant	2.7	2.7	-0.41649042777166784	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.	
0	THIAMINE	Plant	0.4	2.7	-0.4218545151541315		
4	TIN	Plant	3.3	25	0.28122309319446065		
12	TRACHEOGENIN	Fruit	--	--			Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
12	TRACHEOGENIN	Plant	--	--			Jim Duke's personal files.
0	TRICEC-1-ENE-3,5,7,9-TETRAYNE	Shoot	--	--			Jim Duke's personal files.
0	TRIDEC-1-ENE-3-5-7-9-11-PENTAYNE	Shoot	--	--			Jim Duke's personal files.
89	URSOLIC-ACID	Plant	--	--			Jim Duke's personal files.
0	WATER	Plant	--	867000	0.41127693896365686		
77	ZINC	Plant	--	--			